

In the Claims:

1. (Currently Amended) Method A method for detecting period length fluctuations of at least one of a periodic first signal-(1) and/or of a periodic second signal-(2), whereby the in which a period length-(4) of the second signal-(2) is shorter than the a period length-(3) of the first signal-(1) and a reference number-(m) of the periods of the second signal-(2), which that arise in the time-span of a base number of periods of the first signal-(1) is obtained, characterised in that that the method comprising:

determining a first reference number-(m0) for a first period length of the second signal-(2) and a second reference number-(m) for a second period length, different from the first period length, of the second signal; (2) are determined and

dependent on the first and second reference number (m, m0)
calculating a measure for the period length fluctuation of at least one of the first signal-(1) and/or of the second signal-(2) is calculated dependent on the first and second reference number.

2. (Currently Amended) Method The method according to Claim 1, characterised in that further comprising determining at least one reference number of the first and second reference numbers-(m0, m) are determined several times.

3. (Currently Amended) Method The method according to Claim 2, characterised in that further comprising determining a standard deviation of period lengths of a signal of the first and second signals as a measure for the period length fluctuation of a the signal-(1, 2) the standard deviation of period lengths of the signal-(1, 2) is determined.

4. (Currently Amended) Method The method according to any one of the preceding claims, characterised in that Claim 1, further comprising selecting the first period length of the second signal-(2) is selected in such a manner that the effect of the period length fluctuation of the first signal-(1) is greater than the effect of the period length fluctuation of the second signal on the first reference number-(m0).

5. (Currently Amended) Method ~~The method according to Claim 1, any one of the preceding claims, characterised in that further comprising selecting~~ the second period length of the second signal-(2) is selected in such a manner that the effect of the period length fluctuation of the first signal-(1) is less than the effect of the period length fluctuation of the second signal-(2) on the second reference number-(m).

6. (Currently Amended) Method ~~The method according to Claim 1, wherein any one of the preceding claims, characterised in that the base number of periods of the first signal-(1) is 1.~~

7. (Currently Amended) Method ~~The method according to Claim 1, wherein any one of the preceding claims, characterised in that the first signal-(1) is the an output signal of a phase-locked loop-(5) and the second signal-(2) is the an output signal of a reference oscillator-(6).~~

8. (Currently Amended) Method ~~The method according to Claim 1, further comprising carrying out any one of the preceding claims, characterised in that the method is carried out in an integrated semiconductor as a self-test.~~

9. (Currently Amended) Method ~~The method according to Claim 1, wherein any one of the preceding claims, characterised in that at the start of determining a reference number,-(m0, m) the first signal-(1) and the second signal-(2) are in phase.~~

10. (Currently Amended) Method ~~The method according to Claim 1, any one of the preceding claims characterised in that further comprising determining at least one of the period length fluctuation of the first signal-(1) and/or of the second signal-(2) is additionally determined dependent on previously calculated regression coefficients-(CA, CB).~~

11. (Currently Amended) Apparatus ~~An apparatus for detecting period length fluctuations of at least one of a periodic first signal-(1) and/or a periodic second signal-(2), whereby the in which a period length-(4) of the second signal-(2) is shorter than the a period length-(3) of the first signal-(1) and wherein the apparatus is designed in such a way that it can determine for~~

determining a reference number-(m_0, m) from periods of the second signal-(2), ~~which that~~ arise in the time-span of a base number of periods of the first signal-(1), characterised in that the apparatus is designed in such a manner that it can determine for determining a first reference number-(m_0) for a first period length of the second signal-(2) and a second reference number-(m) for a second period length, different from the first period length of the second signal-(2), and dependent on the first reference number-(m_0) and the second reference number, ~~can calculate~~-(m) a measure of the period length fluctuation of at least one of the first signal-(1) and/or of the second signal-(2).

12. (Currently Amended) Apparatus The apparatus according to Claim 10 or 11, characterised in that the apparatus has comprising a reference oscillator-(6) for producing the second signal-(2).

13. (Currently Amended) Apparatus The apparatus according to Claim 10 or 11, characterised in that the apparatus has comprising a phase-locked loop-(5), ~~and is~~ is the apparatus designed in such a manner that the output signal of the phase-locked loop-(5) is the first signal-(1).

14. (Currently Amended) Apparatus The apparatus according to any one of Claims 10 to 12, characterised in that Claim 11, wherein the apparatus is an integrated semiconductor.

15. (Cancelled)

16. (New) An apparatus according to Claim 11, wherein at least one reference number of the first and second reference numbers is determined several times.

17. (New) An apparatus according to Claim 16, wherein as a measure for the period length fluctuation of a signal of the first and second signals the standard deviation of period lengths of the signal is determined.

18. (New) An apparatus according to Claim 11, wherein the first period length of the second signal is selected such that the effect of the period

length fluctuation of the first signal is greater than the effect of the period length fluctuation of the second signal on the first reference number.

19. (New) An apparatus according to Claim 11, wherein the second period length of the second signal is selected such that the effect of the period length fluctuation of the first signal is less than the effect of the period length fluctuation of the second signal on the second reference number.

20. (New) An apparatus according to Claim 11, wherein the base number of periods of the first signal is 1.